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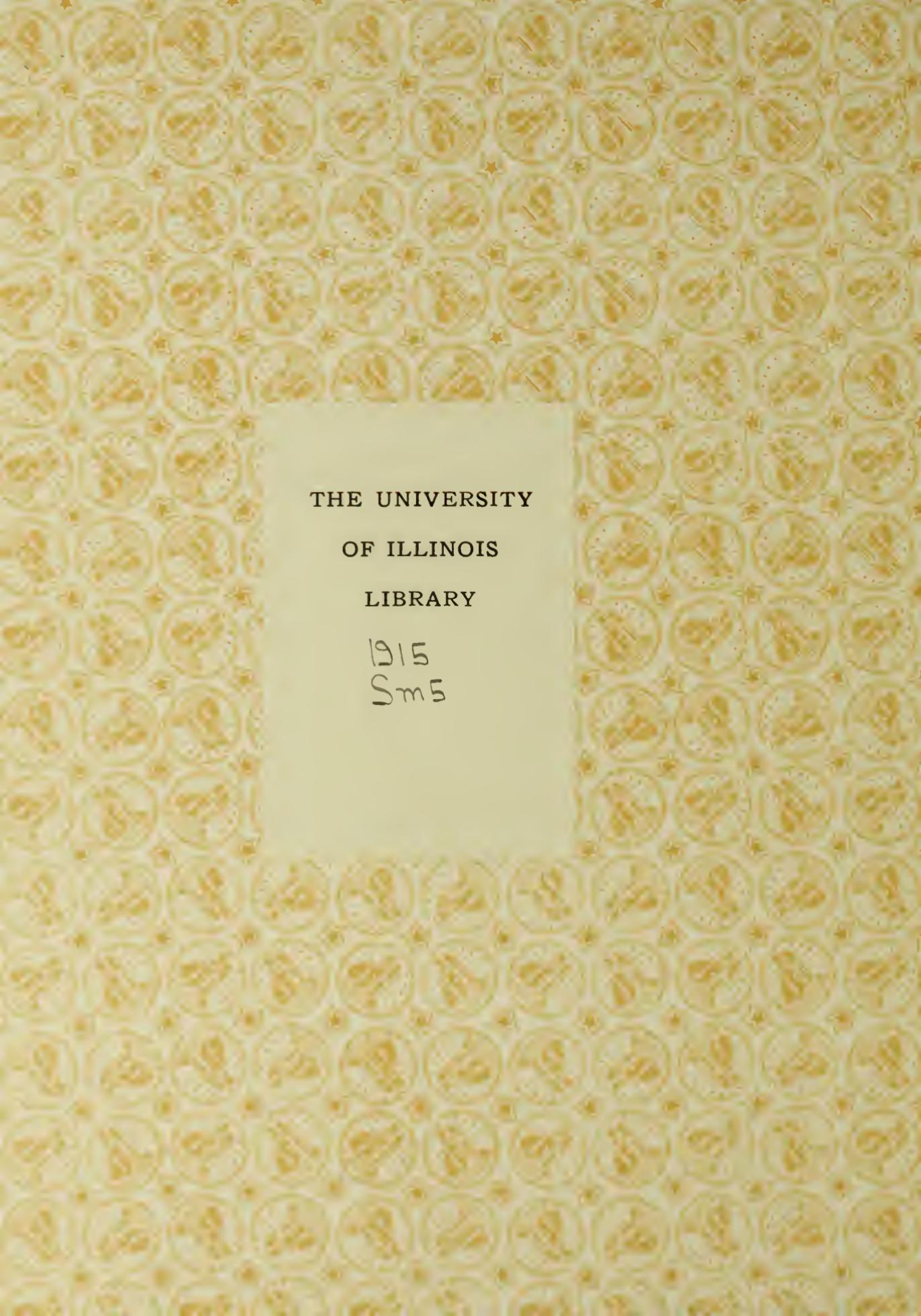
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The Development and use of
the Augmented Sixth Chord

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**THE DEVELOPMENT AND USE
OF THE
AUGMENTED SIXTH CHORD**

BY

ELIZABETH MORREE SMITH

THESIS

FOR THE

DEGREE OF BACHELOR OF MUSIC

SCHOOL OF MUSIC

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ELIZABETH MORRIS SMITH,

ENTITLED THE DEVELOPMENT AND USE OF THE AUGMENTED SIXTH CHORD.

IS APPROVED BY ME AS FULFILLING THIS PART OF THE REQUIREMENTS FOR THE

DEGREE OF BACHELOR OF MUSIC

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THE DEVELOPMENT AND USE OF THE AUGMENTED SIXTH CHORD

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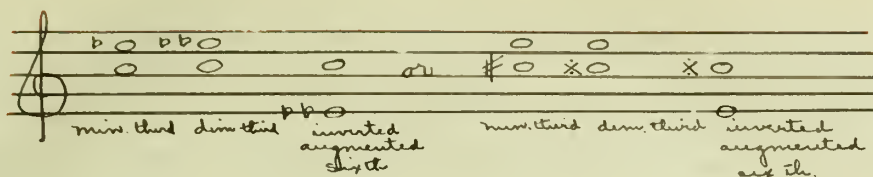
THE DEVELOPMENT AND USE OF THE AUGMENTED SIXTH CHORD

The practice of combining sound of different pitch which is called Harmony belongs exclusively to the music of the most civilized nations. All music is founded or built on chords. In this paper I shall endeavor to explain the development and use of one of these chords, the augmented sixth.

Before proceeding we must understand fully just what is meant by an augmented sixth chord, how it is made, how it is classified, where it may appear, how it is used, and the possible derivations.

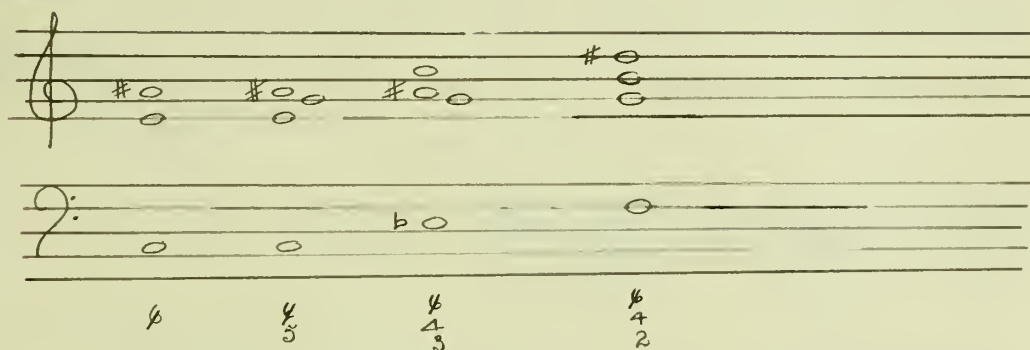
The augmented sixth, which is arrived at by the flattening or sharpening the upper note of a major sixth, as D^b to B or A^b to F^\sharp , contains ten semitones and the ratio of the limiting sounds 125 : 72. This addition of a semitone to the major or perfect interval expands the interval and an augmented sixth is made to appear, hence the name.

The augmented sixth chord is made by so altering and inverting a diatonic harmony that the interval of an A.6th is produced. This may well be illustrated by the employment of a minor third. First we lower the upper note of the third a semitone, making it a diminished third, then invert, that is, making the soprano or upper note take its place in the bass, and the bass or lower note occupying the higher position, - and the result is an augmented sixth. The following example in the key of C will serve to illustrate the last statement.



The diminished third is made by altering either note, that is by lowering the upper tone a semitone or raising the lower tone a semitone. For this reason an augmented sixth is called an altered chord. And as such it is classified in the inversions in which it is normally found. They are four, the triad and the first, second and third inversions of the seventh chord, marked in such manner: ϕ , ϕ , ϕ , ϕ .
 $\begin{matrix} & & 5 & 4 & 4. \\ & & 3 & 2 & \end{matrix}$

To illustrate the three inversions we will continue in the key of C Major.

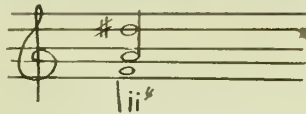


If the third of the augmented sixth chord (reckoned according to the fundamental form) is the lower member of the interval, the chord is in its first inversion, ϕ or $\phi/5$; if the fifth is the lowest member of the interval, the chord is in its second inversion, $\phi/4$; if the seventh of the chord is the lowest member of the interval, the chord is in its third inversion, $\phi/4/2$. The augmented sixth chord may be found in abnormal inversions

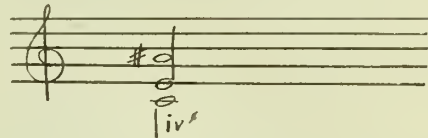
as well as in fundamental forms; however such cases are infrequent. The more modern writers prefer the inversions which bring the augmented interval between the inner voices instead of having the lower tone of the augmented interval lie in the bass.

The augmented chord may be found in major and minor keys. The examples of the chord, the key and the formation will follow: -

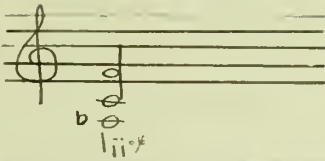
The augmented sixth chord, $\hat{6}$, is found on the super-tonic in major with its fundamental raised; and in sub-dominant



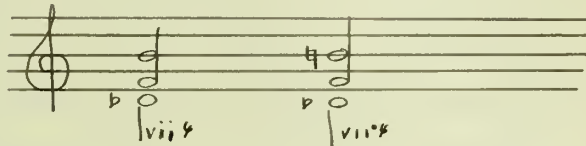
in minor with its fundamental raised.



It may also be found on super-tonic in minor with its third lowered; and on the leading tone in both major and

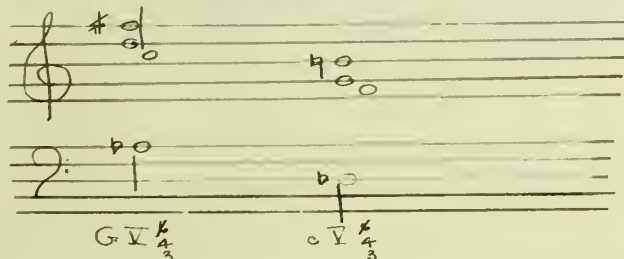


minor with its third lowered.

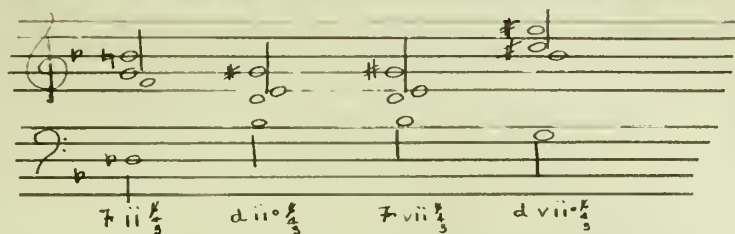


The augmented six-five chord is formed in the same manner as the sixth with the addition of the seventh of the chord. It is found on the same degrees of the scale with the exception of the super-tonic degree in minor.

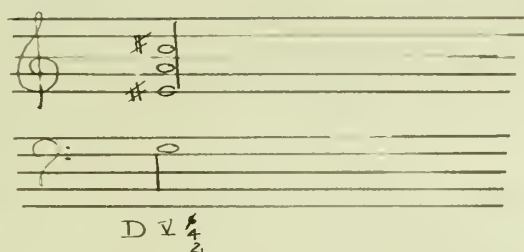
The augmented six-four-three is found on the dominant in both major and minor with the fifth lowered.



It may also be found on the super-tonic and on the leading tone in both major and minor modes with its third tone raised.



The augmented six-four-two is found on the dominant in major with fifth of the chord raised.



The augmented sixth chord is a discord and is usually resolved by moving each note a semitone outward to the octave, the sharpening or flattening of one of the extreme sounds already implying a straining in that direction. The natural resolution is to the tonic or dominant. Various chords and their resolutions follow.



The augmented sixth chord is used for the purpose of effecting modulatory transition. The modulation derived is called enharmonic modulation. For instance take the augmented six-five chord on the supertonic in Key of C, which is $d^{\sharp} f a c$ with f in the bass. By changing d^{\sharp} enharmonically to e^{\flat} we get the chord $f a c e^{\flat}$ which is the dominant seventh chord in the Key of B^{\flat} Major. Immediately we are in the key of B^{\flat} Major because the dominant leads directly to the tonic. This gives a modulation from a given key to another key a major second below. (IV V)

Again, take the six-five chord on the subdominant in the key of C Minor which is $f^{\sharp}, a^{\flat}, c, e^{\flat}$, with a^{\flat} in the bass. By changing f^{\sharp} to g^{\flat} we get the chord $a^{\flat} c e g^{\flat}$ which is the dominant seventh in the key of D^{\flat} Major. This gives a modulation a minor second upward from a given key.

And finally, take a six-five chord on the leading tone in the key of a minor, $g^{\sharp}, b^{\flat}, d, f$, with b^{\flat} in the bass. By changing enharmonically g^{\sharp} to a^{\flat} we have the chord $b^{\flat}, d, f, a^{\flat}$, which is the dominant in the key of D^{\flat} Major. So we see that by this means we are able to derive a modulation to a remote key without the aid of a common chord.

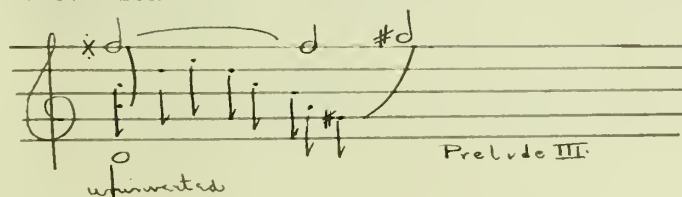
Theorists starting from different radical assumptions suggest different derivations for the augmented sixth chord. Some, taking the major and minor scales to contain all the notes which can be used for essential harmonies, derive the chord from a combination of two roots; so the dominant is the tonic of the upper note, which is a minor ninth, and the root of the two lower notes which are respectively its seventh and ninth.

Others again hold this sixth to be found in the minor scale of the sub-dominant; and others still further that it is merely produced by the artificial lowering of the sixth for artistic purposes. The object of the latter explanation is to bring the supertonic melodically nearer the Tonic in downward progression or to soften the harshness which results from the augmented in the chord of the sixth and minor third on the sub-dominant of the usual minor scale.

In spite of these various derivations the augmented sixth is probably nothing more than the modification of a melodic progression of one or two parts where naturally there would be either a major or minor sixth from one another.

In order to point out the development and use of the augmented sixth chord we will compare the piano works of three periods in instrumental development, namely the early or polyphonic, the middle or symphonic, and the modern or romantic periods.

As a representative of the early period I have taken Bach (1685-1750), the father of instrumental music. I have carefully examined 'Das Wohltemperierte Klavier' of 2,073 measures and found one augmented sixth chord used in this fashion:

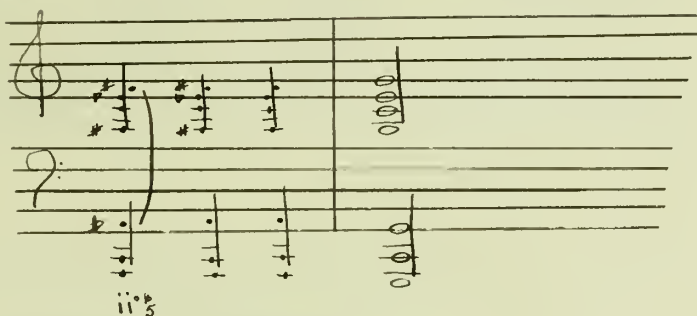


In his English Suites, Volume 1 and Volume 2, of 2,157 measures, the augmented chord was not used at all. The same condition prevails in his

French Suites of 1,311 measures. The manner in which Bach uses the augmented chord, if he uses it at all, is more by substituting the altered note for the natural diatonic note, as D^b for D in the Key of C.

Passing to the next period I have taken Beethoven (1770-1827), who is the culmination of the sonata, as representative. I have examined 5,419 measures of his sonatas Volume 2 and found the augmented chords used eleven times, and comprising all the inversions.

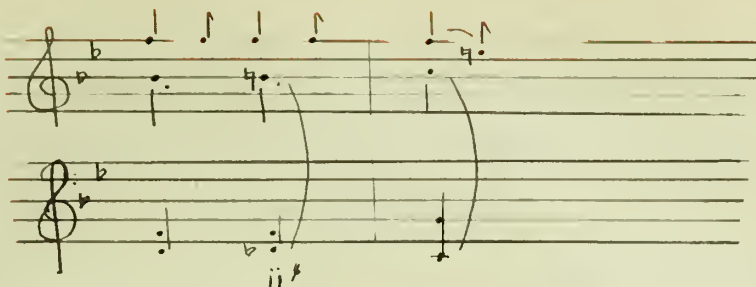
The first augmented sixth is used for melodic purposes in the fifth measure where the first theme is introduced a second time:



The second augmented chord is used for somewhat the same purpose but it is in quite different form:



The third chord built on the VII^0 of the scale is used as a modulation from Key of B^b to the Key of C Minor:



The first inversion other than a sixth chord is the six-four-two used for melodic purpose, a sort of embellishing chord.

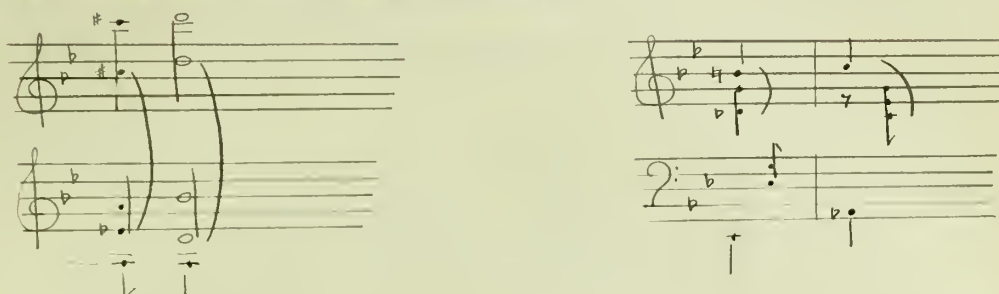


The following augmented sixth chord is in a six-four-three inversion and the resolution is irregular.

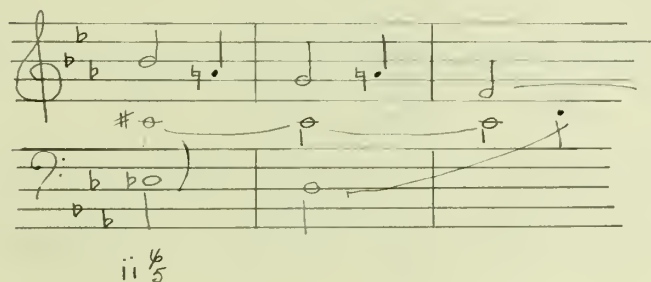


The remainder of the augmented chords in the volume of sonatas are $\frac{6}{5}$ and $\frac{6}{4}$ chords used in the same relation as has been shown above in the preceding examples. It is well to note at this point that the first inversion is used the more frequently and in the majority of cases for melodic purposes.

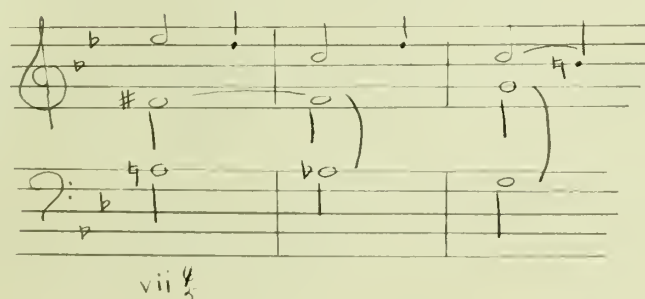
As an exponent of the third and last period I have chosen Brahms. In his concerto in B^b of 1,415 measures, I found two augmented chords used twice and both times uninverted.



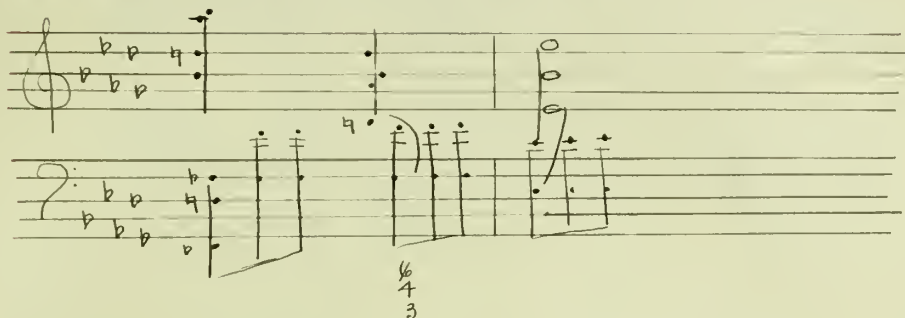
In Brahms Selected Piano Compositions the first augmented sixth is used in the Trio of the E Minor Scherzo and is used to effect a modulatory transition. A modulation from C^b to F, or a major second.



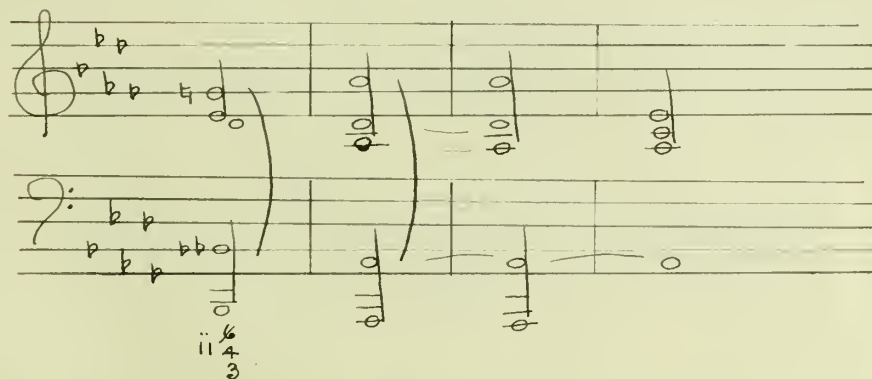
The second augmented sixth chord is used (in the same composition) again for modulation, this time to the key of G Major. Notice the drawn-out resolution.



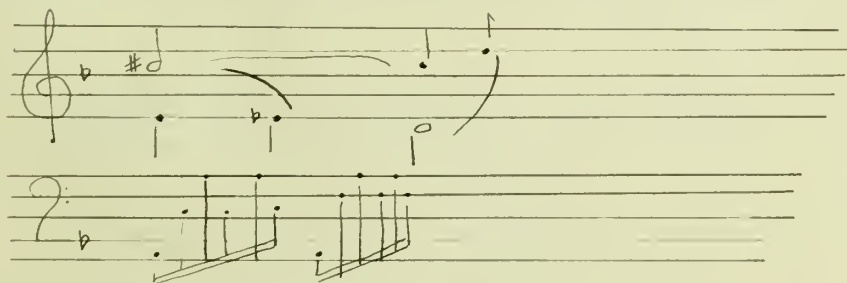
In Brahms we notice less frequent use of $\frac{6}{5}$ chords in Beethoven and the more frequent use of second, third inversions, and the uninverted forms. The third chord is of the second inversion used for melodic purposes. Again we notice the liberty taken with the form.



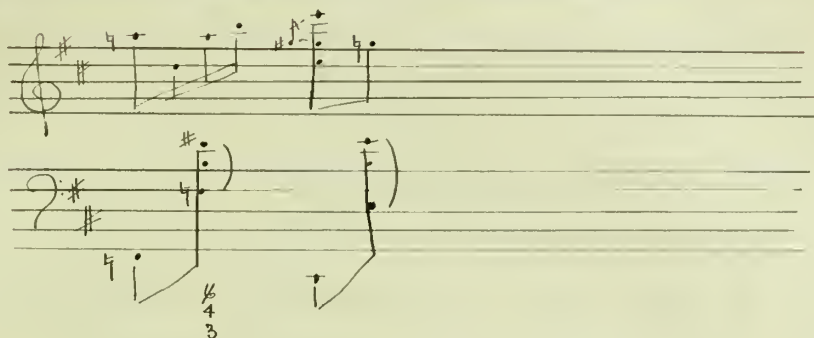
Following immediately the last chord we find another of the same variety but used for a wholly different purpose, that of modulating to A \flat .



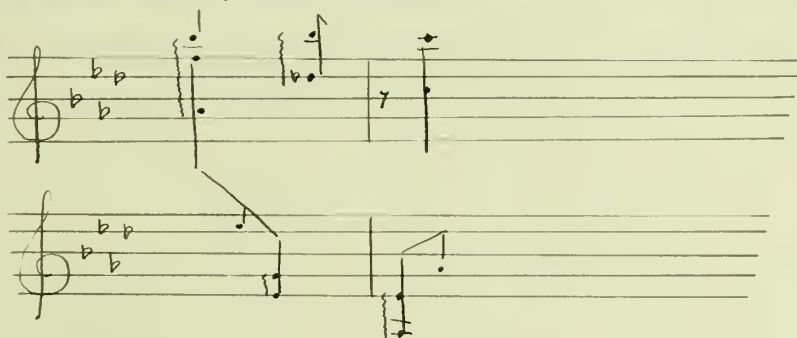
The next time we note its use we find the chord in the uninverted form; a form which Beethoven used sparingly, but one Brahms uses for harmonic purposes (d \sharp might well have taken the place of e \flat).



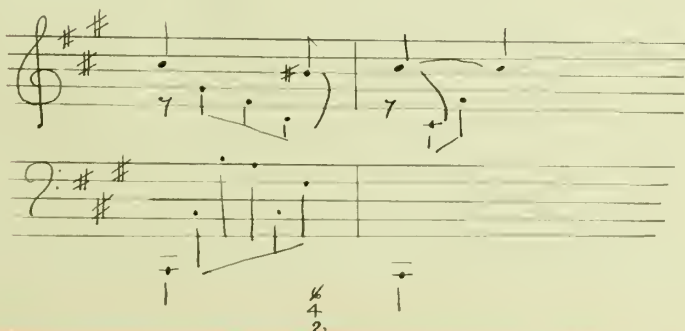
Sixty-eight pages intervene before we find another augmented sixth chord and this time it appears in the third inversion. Here the fifth is used in the bass as a variety in harmonization.



In the fifth measure of an "Intermezzo," we find the next chord in the uninverted form. Brahms seems to be fond of this form as a relief from the more staid dominant, tonic forms.



In all the compositions of this collection, 3,812 measures, we find only one chord of the third inversion. In this position it carries out a twofold duty, that of aiding the melody and establishing the key of C Minor.



The remaining chords are of the same variety as those that have already been explained. In these compositions of Brahms which represent a type of modern romantic composition the augmented sixth is used mostly in modulatory transitions, with some use for melodic progressions as well.

The following table is a summary of proceeding investigation. In the 5,541 measures of Bach examined only one chord was found, and that in the uninverted form; 5,419 measures of Beethoven's compositions were examined. In this number eleven chords were found, seven \sharp , two \sharp_5 , one \sharp_4 , and one \sharp_3 . In the 5,227 measures of Brahms compositions, seventeen chords were found, seven uninverted, three \sharp , one \sharp_5 , five \sharp_4 , and one \sharp_2 . This table shows a rapid increase in the first two periods with a more graduall increase in the last two. We might add that Bach used the augmented chord nine percent as much as Beethoven; and Beethoven 64.7 percent as much as Brahms.

EARLY PERIOD

Composer	Title	Measures	Unin- verted	Chords				Purpose
				♭	♮	♯	♯	
				5	4	4	2	
Bach	Wohl. Temp. Clavier	2 073	1					Melodic
	English Suites,							
	Vol. 1	1 053						
	Vol. 2	1 104						
	French Suites,							
	Vol. 1	1 311						
	Total Measures	5 541	Total Chords				1	

MIDDLE PERIOD

Beethoven	Sonatas, Vol. 2	5 419		7	2	1	1	Melodic and Modulation
	Total Measures	5 419	Total Chords				11	

MODERN PERIOD

Brahms	Concerto	1 415	2					Melodic
	Selected Piano							
	Compositions	3 812	5	3	1	5	1	Melodic and Modulation
	Total Measures	5 227	Total Chords				17	

For more immediate reference I have located the chords in the following table as regards volume, page, line, and measure.

Composer	Title	Page	Line	Measure	Chord
Bach	Wohl. Temp. Clavier	19	5	1	Uninverted
Beethoven	Sonatas, Volume 1	4	1	3	6 5
	(Edition: Breitkopf and Härtel)	11	1	2	6
		21	1	1	6
		22	3	2	6
		35	5	3	6 5
		47	4	1	6
		56	2	3	6 4 2
		67	7	1	6 4 3
		78	1	1	6
		88	1	3	6
		111	2	3	6
Brahms	Concerto, B	5	1	1	Uninverted
		7	4	2	"
	Selected Piano Comp.	5	3	2	6 5
		6	4	10	6
		23	1	3	6
		37	4	8	6 4 3
		45	1	3	Uninverted
		113	1	4	6 4
		119	2	2	Uninverted
		120	2	1	"
		128	3	3	6 4 3
		129	4	3	6 4 3
		132	1	4	6 4 3
		134	4	1	Uninverted
		140	3	2	"
		151	1	1	6

By making this comparison we derive the following conclusion as regards the development and use of the augmented sixth chord. Nothing much can be said as regards Bach in either the development or the use of the augmented sixth chord because Bach was content to stay strictly within the contrapuntal laws, and the common chord or diatonic modulation suited his purpose quite well.

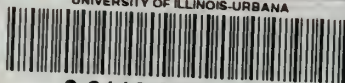
Beethoven, however, was more of exploiting nature and was not so reserved in the use of the augmented chord. He has used all the forms, but the uninverted, with frequent repetition. As for modulation Beethoven has not become accustomed to its use in an extravagant sense, for he has been satisfied in using the chord for melodic purposes with only an occasional modulation.

But, as in all styles, musical or other, the user becomes more bold, so it is with Brahms and the use of the augmented sixth; he exceeds in its frequency of appearance; he exceeds numerically and in the variety of its forms (even making use of the uninverted form); and lastly he exceeds in its use for modulation.





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